



MARK WELBY
CONSULTING ARBORISTS

Arboricultural Impact Assessment

3 Foxcote, Finchampstead, Wokingham, RG40 3PG

Reference: MW.2409.FFW.AIA

Client: Mr Yuvaraj shiva Kotipalli

Date: 12 September 2024



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Executive Summary

Trees are a consideration in this planning application for an outbuilding and extensions to the dwelling. Therefore, this report has been drafted to provide the information required to enable the local planning authority to meet the duty placed upon them by section 197 of the Town and Country Planning Act (as amended, 2021).

Included are a BS5837:2012 compliant tree survey, arboricultural impact assessment, and tree protection strategy that includes a method statement and tree protection plan.

Two trees are to be removed. Both are small, of low quality, and inconsequential.

The extension to the dwelling is situated outside the root protection areas of retained trees.

The outbuilding is within root protection areas and, as such, will be built above ground with only supporting screw piles breaking ground. The impact will be minimal and will not result in detriment to the retained oak trees.

Provided the protection strategy is implemented as outlined, this application has a low arboricultural impact and is thus acceptable.



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1. Instructions and Terms of Reference

- 1.1. In September 2024, I was instructed by Mr Yuvaraj shiva Kotipalli to undertake a tree survey and to produce this report to accompany a planning application for an extension to the dwelling and a new outbuilding at 3 Foxcote, Finchampstead, Wokingham, RG40 3PG.
- 1.2. Following the recommendations of the British Standard¹, this report includes the necessary information to enable the local planning authority to meet the duty placed upon them by section 197 of the Town and Country Planning Act (as amended, 2021).
- 1.3. It demonstrates that the proposal's impact, both direct and indirect, has been assessed, and mitigation, compensation, and tree protection have been proposed where appropriate.
- 1.4. Correct implementation of the tree protection specified in this report is critical for ensuring the retained trees are successfully protected throughout construction.
- 1.5. The assessment considers the proposal's impact on the constraint presented by trees retained within the site and those on adjacent land. Such impact can be caused directly through construction damage and indirectly from post-development resentment and pressure to detrimentally prune or remove the trees. The latter is often due to a poor juxtaposition between the proposal and the trees.
- 1.6. A tree's root protection area (RPA) represents a minimum area in m² that shall be left undisturbed around it. This is initially represented by a circle but is fundamentally an area of rooting volume. It is often adjusted to account for constraints to root growth within the site (primarily highways and buildings). The British Standard provides recommendations regarding the protection of existing trees during the construction process. This is achieved by ensuring a tree protection strategy is implemented before any demolition or construction on site.

Documents Supplied

- Proposed: P1545-01 Location block Plan.pdf

Statutory Legislation

- 1.7. According to Wokingham Borough Council's online service², there are no tree preservation orders on the site (checked at the time of writing), nor is the site within a conservation area.

¹BS5837:2012 Trees in relation to design, demolition and construction

² <https://experience.arcgis.com/experience/>

2. Tree Survey Scope & Methodology

- 2.1. Tree survey data can be found on the appended plan.
- 2.2. The tree survey has been carried out following the recommendations of The British Standard and the trees are assessed objectively and without reference to any site layout proposals. Categories are based on each tree's health and condition, together with an assessment of its life expectancy if its surroundings were to be unchanged.
- 2.3. The reference numbers of surveyed trees and groups of trees are shown on the tree reference plan, which is appended to this report and based on the supplied survey drawing. Stem locations within groups may be estimated, and indicative of canopy only.
- 2.4. The tree survey was carried out from ground level only, with the aid of binoculars as necessary, following the Visual Tree Assessment³ (VTA) method.
- 2.5. Where trees are located on neighbouring land, an estimated appraisal of their quality and dimensions has been made.
- 2.6. Where stems or branches are obscured by ivy or other materials a full assessment of those parts will not be possible.
- 2.7. Tree heights were measured with a clinometer or estimated in relation to those measured.
- 2.8. Trunk diameters are measured at 1.5m above ground level, where this is not possible, then Figure C.1 of the British Standard is followed.
- 2.9. Tree canopies were markedly asymmetrical, and were measured (or estimated by pacing) in four directions using a laser measure. Symmetrical canopies are measured in one direction only, with dimensions in the remaining directions assumed to be similar. For the canopies of groups of trees, the maximum radius for each compass point is measured (more complicated groups will have further notes taken and an accurate representation will be shown on the plan).
- 2.10. All estimated dimensions are noted in the data.

³ Mattheck, C. & Breloer, H., 1998. The Body Language of Trees: A Handbook for Failure Analysis. London: H.M.S.O.

3. Arboricultural Impact Assessment

Proposal

- 3.1. It is proposed to extend the dwelling and build an outbuilding in the rear garden, the layout of which can be seen on the appended plan.

Tree Removals

- 3.2. Two small trees are to be removed: a willow and a cypress. Both are of category C (low quality).

Tree Surgery

- 3.3. There are no plans for any tree surgery work at this stage.

Construction Impact

- 3.4. The appended plan shows that the outbuilding is within the circular RPAs of retained trees. Therefore, a sensitive approach to construction is proposed to minimise the impact on the trees. This will be done via using a no-dig type floor for the garages, ensuring they are built above ground on screw piles installed by hand..
- 3.5. Piles will be installed by hand, so no rigs are required.



Fig 1: Screw pile example



Fig 2: Example structure



Fig 3: Example structure
All images courtesy of nomoredigging.co.uk

Monitoring

- 3.6. Some sites require more arboricultural involvement during the construction process than others. This is typically commensurate with the pressure on retained trees and the complexity of the tree protection strategy.
- 3.7. It is my opinion that regular monitoring visits would not be necessary for this project.

Barrier Type

- 3.8. As the proposed construction work is comparatively 'low impact', the default British Standard tree protection specification seems somewhat onerous. Therefore, it is my opinion that an adequate level of protection can be provided with a lesser specification.
- 3.9. Alternative specifications can be found in [Appendix i](#). TPF 2 or TPF 3 are proposed.

Service & Utility Provisions

- 3.10. Any electricity or telecom feeds can be laid above ground using armoured cables where they are within RPAs.

Summary

- 3.11. Provided the tree protection strategy is implemented as outlined in the following method statement, this application has a low arboricultural impact and is thus acceptable.

4. Arboricultural Method Statement

- 4.1. The tree protection on this site is subject to implementation as detailed in the following sections.
- 4.2. The recommendations of the British Standard have been applied where viable. Where deviations from the preferred approach are required, the impact on any retained trees is minimised through a combination of supervision from an arboriculturist and adherence to the associated method statement.
- 4.3. Once permission is granted, the strategy must be followed to avoid impacting the trees and adhere to any planning conditions.
- 4.4. The information within this section must be passed to the site foreman and cascaded to all relevant personnel involved in the project.
- 4.5. Any questions about the content or its implementation shall be directed to **Mark Welby Consulting Arborists at 01730 239492** before action is taken.
- 4.6. A tree protection plan showing the types of tree protection and their locations is appended. It includes the tree survey data, existing site features and the approved construction. The plan must be read in conjunction with this method statement.

Phasing

- 4.7. It is essential that the following phasing is followed if trees are to be effectively protected throughout construction.

1	Tree removals
2	Installation of protection barriers & ground protection
3	Confirmation that tree protection barriers are installed to be sent to LPA
4	Installation of screw piles in RPAs: under arboricultural supervision
5	Floor fixed to piles
6	Construction of garden room on raised floor
7	Removal of tree protection barriers upon completion of work

Table 1: Timing of operations in relation to trees

- 4.9. Shall any of the protection measures prove incompatible with elements of the build program, contact the project arboriculturist to discuss options.

Pre-start Confirmation

4.10. The most important step in the tree protection process: confirmation that the tree protection barriers are in place must be forwarded to the LPA before any external work starts. This may be a photographic record sent via email.

Construction Exclusion Zone (CEZ)

4.11. The CEZ is a root-sensitive area where construction activities are to be excluded. The default method of doing so is through the installation of tree protection barriers. If construction access is required in the CEZ then ground protection can be used to facilitate this.

4.12. Everyone engaged in the construction process is responsible for respecting the tree protection measures and observing the necessary precautions within and adjacent to them.

4.13. Inside the exclusion zone, the following shall apply:

- No mechanical excavation whatsoever;
- No excavation by any other means without arboricultural site supervision;
- No hand digging without a written method statement having first been approved by the project arboriculturist;
- No lowering of levels for any purpose (except removal of grass sward using hand tools);
- No storage of plant or materials;
- No storage or handling of any chemical including cement washings;
- No vehicular access (unless ground protection is installed);
- No fire lighting.

4.14. In addition to the above, further precautions are necessary adjacent to trees:

- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builder's sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection area of retained trees;
- No fire shall be lit such that flames come within 5m of tree foliage.

4.15. Variations from the above may be specified in the following sections of this method statement.

This is only acceptable where detailed and will typically be subject to supervision by the arboriculturist.

Protection Barriers

4.16. Barriers must be fit to exclude construction activity and appropriate to the degree and proximity of work around the retained tree(s). Barriers shall be maintained to ensure that they remain rigid and complete.

4.17. See Appendix i for barrier specifications.

4.18. On this project, types TPF 2 or TPF 3 are to be used.

Ground Protection

4.19. If required to facilitate access within the CEZ (or as shown on the appended tree protection plan), ground protection is to be installed. If not already included on the tree protection plan, it must be approved in writing by the local planning authority before implementation. The ground protection must be capable of supporting the expected loads and avoiding rutting, compaction and damage to the soil: as advised in section 6.2.3 of the British Standard.



GP1: Tree protection barriers and scaffold ground protection



GP2: Tree protection barriers & trackmat ground protection

4.20. Stages of ground protection installation:

1. If required, dismantle barriers and re-erect them to protect any newly exposed CEZ not to be covered by ground protection;
2. Any shrubs, saplings or trees to be removed, are to be cut or ground out to just below ground level rather than grubbed or winched out, which can damage the roots of retained trees;
3. Lay woven geotextile over the existing ground surface by hand;
4. Cover the area with a compressible layer (200mm of woodchip, for example), using hand tools only;
5. Cover compressible layer with side butting scaffold boards, plywood boards or proprietary trackway/trackmats;
6. Confirm surface is acceptable for use with the project arboriculturist;
7. Area ready for construction access;
8. Any scaffolding required within the area will be erected with the uprights placed on spreader boards;
9. The boarding will be left in place until the construction works are finished.

4.21. A single thickness of boarding laid on the soil surface will provide sufficient protection for pedestrian loads. However, for wheeled or tracked construction traffic movements within the RPA, ground protection will involve the use of temporary geocell/cellular confinement systems, reinforced concrete slabs or track-board systems details of which are to be specified by the project engineer and approved for use by the project arboriculturist and local authority before construction commences.

4.22. Track-boards can be sourced from Trakmats, 0800 622 6838, www.trakmats.co.uk, or GroundGuards, 0113 209 3685, www.ground-guards.co.uk.

4.23. There is to be no excavation within the ground protection area whatsoever. This includes the installation of services and associated utilities, without prior approval.

Site Induction

4.24. All site staff are to be briefed on the tree protection strategy for the site as part of the general site induction procedure. This can be carried out by the site manager once he has been briefed by the project arboriculturist.

4.25. In general, this will include the following:

1. Explanation of the purpose of the tree protection barriers and any ground protection
2. Explanation of the demolition procedures near trees
3. Explanation of the sensitive/supervised excavation areas
4. What to do if access is needed within a protected area for any reason
5. What to do if damage occurs to any tree protection barriers and how to contact the project arboriculturist if necessary.

Tree Surgery

4.26. Should any pruning work be required, the following must be adhered to once any requisite permissions are obtained.

4.27. All work will be carried out under BS3998⁴ industry best practice and in line with any works already agreed upon with the council.

4.28. The statutory protection^{5 6} will be adhered to. If further advice is required, particularly if bats are discovered during tree work, it will be obtained from Natural England or other competent persons and recommendations adhered to.

⁴ BS3998:2010- *Recommendations for Tree Work*. London: British Standards Institute

⁵ *Wildlife and Countryside Act*. (1981) London: HMSO.

⁶ *Conservation of Habitats and Species Regulations (2017)* London: HMSO.

4.29. The stumps of any trees removed from within the Construction Exclusion Zone or the RPAs of retained trees will be either cut flush to ground level and left in situ or ground out using a stump grinder. They will not be winched out.

4.30. All operations shall be carefully carried out to avoid damage to the trees being treated or neighbouring trees. No trees to be retained shall be used for anchorage or winching purposes.

No-dig Structure Construction

4.31. The structure is to be built above ground. The only invasive work will be the installation of the supporting screw piles.



NDS1: Example of no-dig foundation for single-storey structure. © Quickbase

4.32. The following methodology is for guidance and must be subject to professional design and installation. The design must then be approved by the project arboriculturist before it is implemented.

4.33. An indicative section of no-dig construction is shown on the appended plan.

4.34. Stages of construction:

1. Contact project arboriculturist to hold pre-start site meeting, a 'toolbox' talk before starting work and provide Arboricultural Clerk of Works (ACoW) supervision throughout the process.
2. Grass sward to be removed as necessary using hand tools or a turf stripper.
3. Excavation to establish sites free of roots >25mm diameter for piles. To be carried out by hand or with an air excavation tool.
4. Screw piles installed using hand rig only.

5. Floor frame fixed to piles.

6. The remaining construction must be built on the raised floor with no further excavation.

4.35. This specification must be designed to meet the following performance criteria:

- Construction will be above current ground (removal of grass sward/leaf litter by hand only).
- It will provide adequate resistance to applied loads, avoiding compaction of the soil.
- Provision will also be made for resistance to or tolerance of deformation by tree roots
- An allowance will be made for oxygen diffusion according to seasonal demand
- Water throughput to meet seasonal demand will also be possible (can be achieved by redirection of captured rainwater into hand-dug land drains)

4.36. Any supports (such as a pile and beam construction may require) will be sited around any significant root masses. Sensitive air excavation before design will identify ideal locations.

4.37. Such techniques, for example, pile and beam foundations, must be designed to cause minimal impact on the root system. This will include building above the current soil grade and using floating or cantilevered floors within the structure.

4.38. No plant machinery can be sited within the RPA. The use of back-acters or diggers to deposit construction materials within the area is acceptable, provided this can be achieved without causing damage to the canopy, and only under arboricultural supervision. The exception to this rule is when the use of piling rigs is required. In most cases, it will not be possible to site a normal-sized rig under the trees canopy and a 'mini-rig' will be required.

5. Limitations of Use and Copyright.

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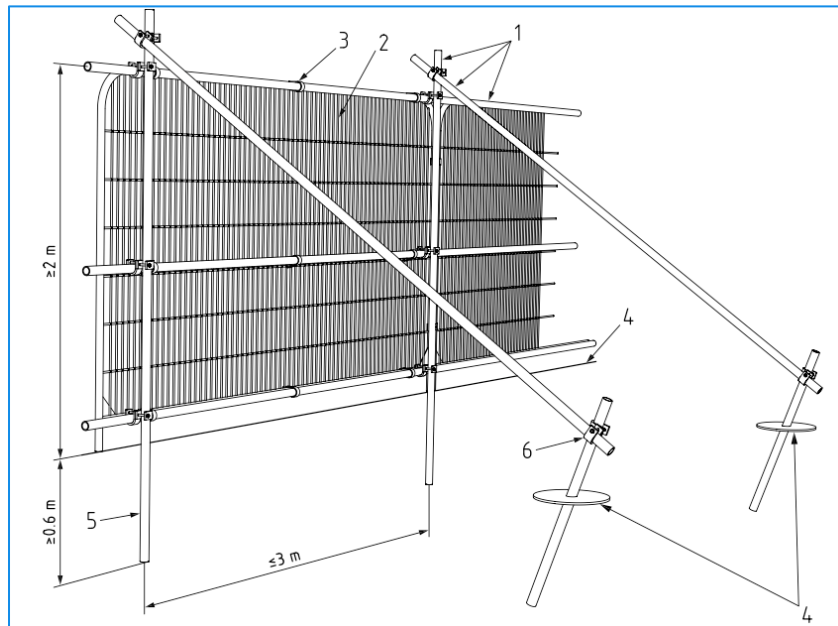
Appendix





i.

Tree Protection Barriers



1 Standard scaffold poles

2 Heavy gauge 2 m tall galvanised tube and welded mesh infill panels

3 panels secured to up rights and cross members with wire-ties

4 ground level

5 uprights driven into the ground until secure (minimum depth 0.6 m)

6 Standard scaffold clamps

TPF1: Default specification for protective barrier (Fig 2 from BS5837:2012)



TPF 2: Alternative fencing option: scaffold uprights with backstay



TPF 3: Alternative fencing option: on boots with backstay



TPF 4: Plastic barrier for low intensity areas of construction



TPF 5: Chain-link for low intensity areas on large projects

ii.

Tree Categories Explained

BS5837:2012 Table 1 -Cascade chart for tree quality assessment			
Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see Note)			
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	*Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) *Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline *Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>		
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
Trees to be considered for retention			
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value



iii.

Protection Plan



See the following page

BS5837 Tree Survey: Trees & Groups to be Retained

Retained Trees / Groups

Ref	Species	Common Name	Height	Stem Diameter	Canopy NESW	Crown Clearance	Age Class	Observations	Tree Surgery	Est. Remaining Contribution	Date Surveyed	No.	BS Cat
01	Quercus robur	Pedunculate oak	18m	660mm	4 N 5 E 5 S 5 W	3m	Mature	Fair quality and condition with a linear wound approximately 1.5 m on the lower stem. Scattered deadwood and a small seedling, that has a very bad stem wound, growing underneath it.		40 Years	11/9/2024	1	B1
02	Quercus robur	Pedunculate oak	20m	630mm	7 N 7 E 5 S 7 W	3m	Mature	Fair overall physiological and structural condition.		40 Years	11/9/2024	1	B1
03	Quercus robur	Pedunculate oak	21m	460mm	6 N 6 E 6 S 6 W	2.5m	Mature	Fair overall physiological and structural condition.		40 Years	11/9/2024	1	B1
04	Quercus robur	Pedunculate oak	21m	550#mm	6 N 6 E 6 S 6 W	2.5m	Mature	Fair overall physiological and structural condition. Off site and inaccessible. Location estimated		40 Years	11/9/2024	1	B1
05	Quercus robur	Pedunculate oak	21m	550#mm	6 N 6 E 6 S 6 W	2.5m	Mature	Fair overall physiological and structural condition. Off site and inaccessible. Location estimated		40 Years	11/9/2024	1	B1
08	Ilex aquifolium	Common holly	6m	150#mm	1.5 N 1.5 E 1.5 S 1.5 W	2m	Semi-Mature	Fair overall physiological and structural condition.		10 Years	11/9/2024	1	C1
09	Quercus robur	Pedunculate oak	16m	530mm	7 N 3 E 7 S 7 W	3m	Mature	Fair overall physiological and structural condition.		40 Years	11/9/2024	1	B1
10	Betula pendula	Silver birch	6m	300#mm	3.5 N 3.5 E 4 S 3.5 W	1.5m	Mature	Fair overall physiological and structural condition.		20 Years	11/9/2024	1	C1
												Total :8	

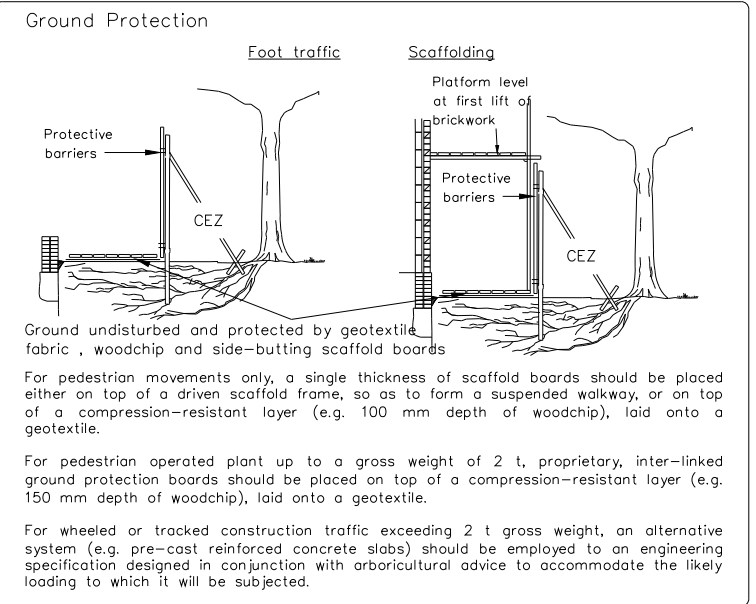
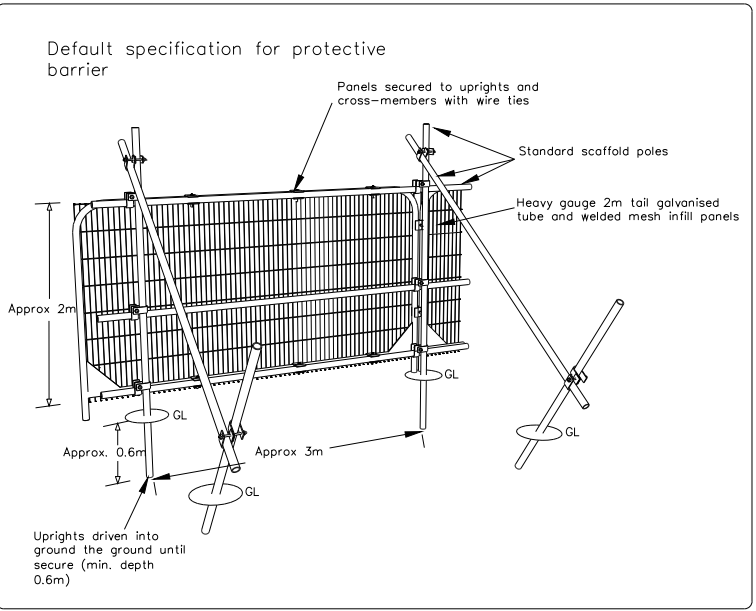
Survey by Mark Welby DipArb(RFS), TechCert(ArborA), FArborA
Arboricultural Association Registered Consultant
www.mwelby.com

denotes estimated dimension. Typically due to the tree being inaccessible.
Where dimensions are not listed please refer to the plan graphics for an indicatvie representation (typically for groups).

Trees & Groups for Removal

Removed Trees / Groups

Ref	Species	Common Name	Height	Stem Diameter	Canopy NESW	Crown Clearance	Age Class	Observations	Est. Remaining Contribution	Date Surveyed	No.	BS Cat
06	Cupressus macrocarpa	Monterey cypress	5m	150#mm	1 N 2 E 3 S 2 W	1.5m	Semi-Mature	Suppressed	10 Years	11/9/2024	1	C1
07	Salix caprea	Goat willow	5m	150#mm	3 N 3 E 3 S 3 W	1.5m	Semi-Mature	Poor location. Self seeded	10 Years	11/9/2024	1	C1
												Total :2



Construction Exclusion Zone

It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them.

Inside the exclusion zone, the following shall apply:

- No mechanical excavation whatsoever;
- No excavation by any other means without arboricultural site supervision;
- No hand digging without a written method statement having first been approved by the project arboriculturist;
- No lowering of levels for any purpose (except removal of grass sward using hand tools);
- No storage of plant or materials;
- No storage or handling of any chemical including cement washings;
- No vehicular access;
- No fire lighting.

In addition to the above, further precautions are necessary adjacent to trees:

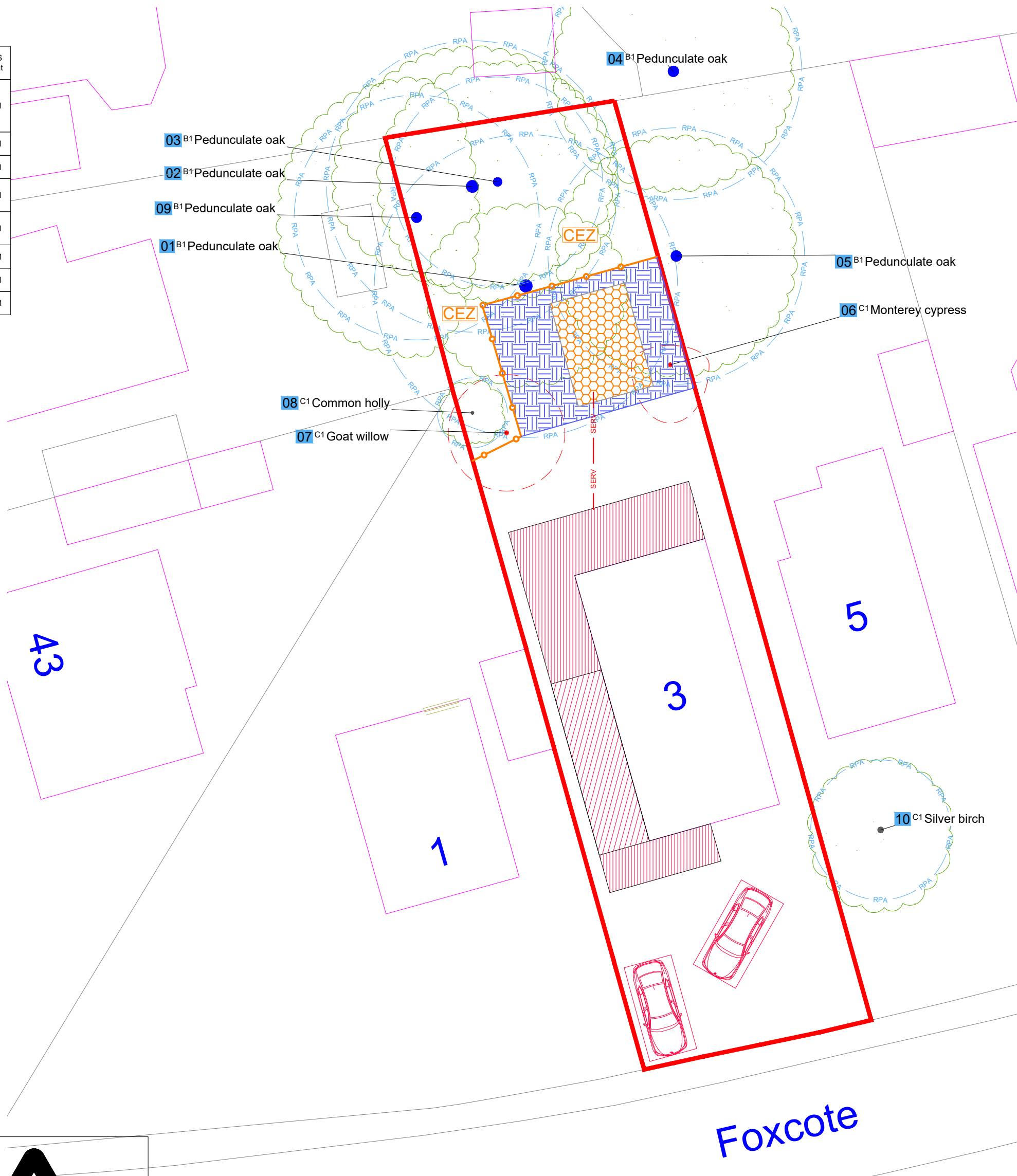
- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builder's sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection area of retained trees;
- No fire shall be lit such that flames come within 5m of tree foliage.

All weather signs shall be erected at reasonable intervals on the barriers. See example inset

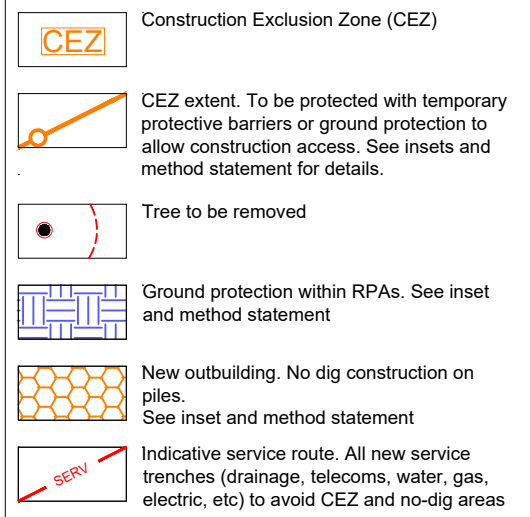
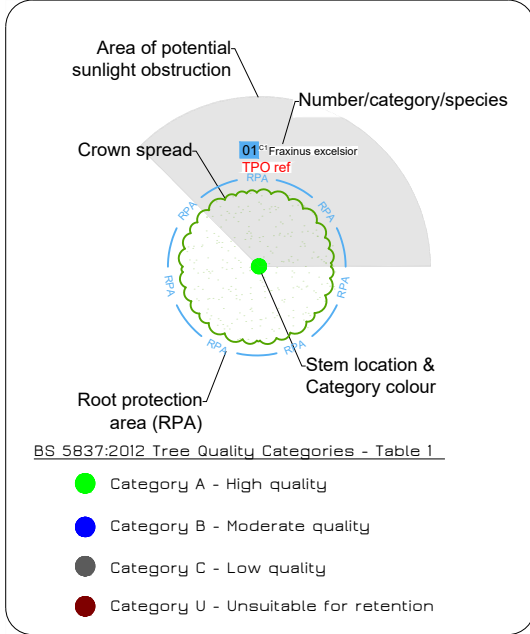


TREE PROTECTION AREA
KEEP OUT!

(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED
BY PLANNING CONDITIONS AND/OR ARE THE
SUBJECT OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER,
MAY LEAD TO CRIMINAL PROSECUTION
THIS FENCING MUST NOT BE REMOVED WITHOUT
PERMISSION FROM THE LOCAL PLANNING AUTHORITY



1:200	2.0	4.0	6.0	8.0	10.0	12.0m
REV:	DATE:	UPDATES:				DRAWN:



Tree Protection

3 Foxcote,
Finchampstead, Wokingham,
RG40 3PG

Date: 12/09/2024 Scale: 1:200 @A2

DWG Ref: MW.2409.FFW.TPP



Base plan/site survey reference:
PI545-01 Location block Plan.pdf

Statutory Tree Protection
Tree Protection Orders: none found with
online LPA search

Conservation Area: N0

Felling licence: Garden areas are exempt.

Guidance on the implementation and use
of this information, along with its
limitations and more can be downloaded
here: <http://bit.ly/BSGuidance>

This plan has been drafted in colour. A
monochrome version must not be
relied upon

NOTES

This Tree Survey has been undertaken within the recommendations of British Standards 5837:2012 and current arboricultural best practice.

- The reference numbers of surveyed trees and groups of trees are shown. Stem locations within groups may be estimated, and indicative of canopy only
- The tree survey was carried out from ground level only, with the aid of binoculars as necessary, following the Visual Tree Assessment (VTA) method.
- Where trees are located on neighbouring land an estimated appraisal has been made of their quality and dimensions.
- Where stems or branches are obscured by ivy or other materials a full assessment of those parts will not be possible.
- Height dimensions are estimated and are given in metres.
- Trunk/stem diameters are measured in mm at 1.5 metres above ground level, unless otherwise stated. Where this is not possible, then Figure C.1 of the British Standard is followed.
- Tree canopies, where markedly asymmetrical, were measured (or estimated by pacing) in four directions using a laser measure. Symmetrical canopies are measured in one direction only, with dimensions in the remaining directions assumed to be similar. For the canopies of groups of trees, the maximum radius for each compass point is measured (more complicated groups will have further notes taken and an accurate representation will be shown on the plan).